LISTING OF THE CLAIMS

Claim 1 (Original):   A method comprising:

selecting a first winning entry from one of a plurality of main calendars during a time unit, the first winning entry indicating a first pipe to be serviced during the time unit;

determining that no pipe flow corresponding to the winning first pipe currently needs to be serviced during the time unit;

selecting a second winning entry from the plurality of main calendars during the time unit, the second winning entry indicating a second pipe or an autonomous flow to be serviced during the time unit; and

servicing the autonomous flow or a pipe flow corresponding to the second winning entry during the time unit.

Claim 2 (Previously Presented):   The method of claim 1 wherein selecting the first entry from one of the plurality of main calendars during the time unit includes selecting the first winning entry from a highest priority calendar that indicates an entry that needs to be serviced.

Claim 3 (Original):   The method of claim 1 wherein the first winning entry includes a first entry of a chain, the chain includes a plurality of pipe entries scheduled to be serviced during the time unit.

Claim 4 (Original):   The method of claim 1 wherein selecting the first winning entry from one of the plurality of main calendars during the time unit includes selecting the first winning entry from one of the plurality of main calendars, each of which is of the different priority, during the time unit.

Claim 5 (Original):   The method of claim 1 wherein selecting the first winning entry from one of the plurality of main calendars during the time unit includes selecting the first winning entry from one of the plurality of main calendars during a plurality of clock cycles.

Claim 6 (Previously Presented):   The method of claim 1 wherein determining that no pipe flow corresponding to the winning first pipe currently needs to be serviced during the time unit includes accessing a pipe queue corresponding with the winning first pipe for pipe flows that need to be serviced and determining that no pipe flow corresponding to the winning first pipe entry currently needs to be serviced during the time unit.

Claim 7 (Original):   The method of claim 3 wherein selecting the second winning entry from one of the plurality of main calendars during the time unit includes selecting a second entry of the chain.

Claim 8 (Original):   The method of claim 2 wherein selecting the second winning entry from one of the plurality of main calendars during the time unit includes selecting the second winning entry from a calendar of a lower priority than the highest priority calendar.

Claim 9 (Previously Presented):   The method of claim 8 wherein selecting the second winning entry from one of the plurality of main calendars during the time unit includes selecting the second winning entry from the calendar of the lower priority than the highest priority calendar includes selecting the second winning entry from the highest priority calendar that has an entry indicating a pipe or autonomous flow to be serviced during the time unit.

Claim 10 (Previously Presented): The method of claim 1 wherein servicing the autonomous flow or pipe flow corresponding to the second winning entry during the time unit includes accessing a pipe queue corresponding to the second winning entry to select a pipe flow that needs to be serviced.

Claim 11 (Previously Presented): The method of claim 10 wherein servicing the autonomous flow or pipe flow corresponding to the second winning entry during the time unit includes servicing a highest priority pipe flow that is in the pipe queue a longest time.

Claim 12 (Previously Presented): A network processor system comprising:
          at least one memory adapted to store one or more quality of service priority parameters corresponding to one or more pipes and pipe flows; and
          scheduler logic, coupled to the at least one memory, to:
               select a first winning entry from one of a plurality of main calendars during a time unit, the first winning entry indicating a first pipe to be serviced during the time unit;
               determine that no pipe flow corresponding to the winning first pipe currently needs to be serviced during the time unit;
               select a second winning entry from the plurality of main calendars during the time unit, the second winning entry indicating a second pipe or autonomous flow to be serviced during the time unit; and
               service the autonomous flow or pipe flow corresponding to the second winning entry during the time unit.

Claim 13 (Previously Presented):   The network processor system of claim 12 wherein the scheduler logic comprises:

the plurality of main calendars for storing at least one of the autonomous flow and a pipe that are scheduled to be serviced;

a plurality of secondary calendars for storing pipe flows that are scheduled to be serviced; and

a pipe queue table for storing a winning pipe flow in a queue for a pipe to which the pipe flow corresponds.

Claim 14 (Previously Presented):   The network processor system of claim 12 wherein the scheduler logic further comprises:

enqueue and new attach logic for scheduling at least one of the autonomous flow and the pipe flow to be serviced; and

dequeue and reattach logic for selecting at least one of the autonomous flow and the pipe flow to be serviced.

Claim 15 (Original):   A method comprising:

selecting a first winning entry from one of a plurality of main calendars during a time unit, the first winning entry indicating a first pipe to be serviced during the time unit;

determining that no pipe flow corresponding to the winning first pipe currently needs to be serviced during the time unit;

selecting a second winning entry from the plurality of main calendars during the time unit, the second winning entry indicating a second pipe to be serviced during the time unit; and

servicing a pipe flow corresponding to the second winning entry during the time unit.

Claim 16 (Original):   A method comprising:

selecting a first winning entry from one of a plurality of main calendars during a time unit, the first winning entry indicating a first pipe to be serviced during the time unit;

determining that no pipe flow corresponding to the winning first pipe currently needs to be serviced during the time unit;

selecting a second winning entry from the plurality of main calendars during the time unit, the second winning entry indicating an autonomous flow to be serviced during the time unit; and

servicing the autonomous flow corresponding to the second winning entry during the time unit.

Claim 17 (Previously Presented): A network processor system comprising:

at least one memory adapted to store one or more quality of service priority parameters corresponding to one or more pipes and pipe flows; and

scheduler logic, coupled to the at least one memory, to:

select a first winning entry from one of a plurality of main calendars during a time unit, the first winning entry indicating a first pipe to be serviced during the time unit;

determine that no pipe flow corresponding to the winning first pipe currently needs to be serviced during the time unit;

select a second winning entry from the plurality of main calendars during the time unit, the second winning entry indicating a second pipe to be serviced during the time unit; and

service a pipe flow corresponding to the second winning entry during the time unit.

Claim 18 (Previously Presented):   A network processor system comprising:

     at least one memory adapted to store one or more quality of service priority parameters corresponding to one or more pipes and pipe flows; and

     scheduler logic, coupled to the at least one memory, to:

       select a first winning entry from one of a plurality of main calendars during a time unit, the first winning entry indicating a first pipe to be serviced during the time unit;

       determine that no pipe flow corresponding to the winning first pipe currently needs to be serviced during the time unit;

       select a second winning entry from the plurality of main calendars during the time unit, the second winning entry indicating an autonomous flow to be serviced during the time unit; and

       service the autonomous flow corresponding to the second winning entry during the time unit.